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National Oceanic and Atmospheric Administration

"Three Imperatives for an Integrated Earth Observation System" - Speech by Vice Admiral (Ret.) Conrad C. Lautenbacher Jr., U.S. Navy

2003 WMO Congress

"Three Imperatives for an Integrated Earth Observation System"

Vice Admiral (Ret.) Conrad C. Lautenbacher Jr., U.S. Navy

Under Secretary of Commerce for Oceans & Atmosphere,

NOAA Administrator

Geneva Switzerland, May 2003

Welcome - Thank You

Good Morning. It is a great pleasure and privilege to be with you. I thank the WMO for inviting me to meet with you here at this most important WMO Congress. I have been deeply impressed by the achievements that have resulted from the long-standing partnerships within the WMO and its member countries over many decades - with one of the most notable being the WMO Global Observing System for weather that has brought so many benefits to the nations of the world. In short, the WMO is a model international organization demonstrating to the entire world the enormous benefits that can be gained by serious cooperative efforts.

I am indeed honored to have the opportunity to address an organization like the WMO, which has a worldwide reputation for being both productive and effective in meeting its mission. This reputation is derived in no small part from the dedicated work of all of you - the members, as well as those of you who have been willing both to serve and to lead this great organization. I must pay special tribute to two individuals in particular who have served so well and have provided decades of service to this organization - such as Dr. John Zillman and Professor Obasi. Dr. Zillman is completing 8 years as the indispensable President, and 30 years of major contributions to WMO Programs from the Global Atmospheric Research Program and World Weather Watch to the World Climate Program and the IPCC. Professor Obasi is completing 20 years as the Secretary General and tireless architect for weather, climate and water in the Halls of the UN and with Governments around the world promoting the cause of National Meteorological and Hydrometeorological Services. On behalf of the United States and NOAA, I thank you both for your service and extend to you my very best wishes in the future.

NOAA's Unique Perspective

I speak to you today from a somewhat unique perspective as head of what might be described as the United States' "operational ecosystem science agency."

The National Oceanic & Atmospheric Administration is the largest agency in the U.S. Department of Commerce, 65% in budget terms, and carries out a daily mission of monitoring and understanding our oceans, coasts, fisheries and weather as well as developing forecasts and disseminating that information for economic and public benefit. We operate a complex network of observing systems. Our geostationary and polar-orbiting satellites provide continuous coverage of the Earth 24-hours a day, and these space assets are complimented by an extensive surface network of towers, balloons, buoys, and aircraft. During my tenure as the Head of NOAA, I have come to be most impressed by the current and future potential of this network. Having all of these technical capabilities as well as a complete roster of first class earth scientists of all disciplines under one roof offers enormous possibilities. This enables to concentrate expertise and technology to address the significant earth environmental and resource management issues that are emerging on the horizon of our collective future. I have also come to be most impressed with NOAA's partnership with the WMO. This partnership has extended the value of our internal skills to the international level of collaboration where indeed we all must be to meet the challenges we face this century.

Observing Systems - Intro

My remarks today are focused on the importance, the benefits and the way ahead for what I will refer to as a comprehensive, integrated, and sustained earth observing system. I strongly believe we have reached a time for an "Earth Science Renaissance" - a new era where human ingenuity must be applied to developing a deeper understanding of the complex systems of Planet Earth. That understanding begins with observations. All of us are aware that not a day passes that we do not reap the benefits of satellite, aircraft, and ground-based measurements that document environmental changes across the globe. These measurements are essential to every nation to assist in such essential tasks as monitoring crops, exploring the oceans, improving weather forecasts, or assessing disasters, among others. In terms of weather information, much of the credit goes to the WMO; countries are experiencing thanks to WMO work on observing systems and free exchange of data.

However, collectively, we can and we must do much more. The forces of social change and global development present a number of serious issues for the world's leaders, decision-makers, and international institutions, such as the WMO. We are confronting a future that will require advancing our existing observing systems to the next level of Earth Observation - that is, to build a system of systems that will give us the tools we need to "take the pulse of the planet."

As we do for weather today, so must we do for climate, for water, for ecosystem definition and management, for wise use of all earth resources, for sustainable development and for other newly arising environmental challenges.

I. Three Imperatives for an Integrated Earth Observation System

There are many ways in which we could present a case for a fully integrated Earth information and data management system, but in the short time I have today I will focus on a limited selection of these imperatives organized in three broad categories - the are:

1. social
2. economic, and
3. scientific

Social

Perhaps the most pressing set of social needs stems from a growing population that will continue to demand access to crucial resources like clean water and plentiful food. Projections of global population growth show roughly a doubling, and perhaps more, beyond our current number of 6 billion people over the next few decades. Trends show that the concentration of populations is shifting from rural areas to the urban centers, which will dramatically alter the distribution of goods, services, and land use. And many of these cities are located in coastal regions - the very regions we rely upon for healthy fisheries, and reliable transport and navigation. In the United States, more than half of the population lives within 50 miles of the coasts - and that number continues to climb.

With this kind of increased crowding comes increased potential vulnerability to natural disasters - and we have seen the considerable damage that is caused by floods and hurricanes, especially in those areas in proximity to coastlines. Under these conditions, we must improve our understanding of the complex workings of earth systems in order to manage our resources in a more efficient way. Much more can be said about social imperatives, but in the interest of time let us discuss the second category - economic factors.

Economics

Sustainable development has become a popular term for addressing many of the economic issues that arise from the pressing social changes that I have described. With shifting concentrations and growth of population, we see shifts in competition for resources that affect our economies:

* Twenty-Five percent of the Earth's biological productivity and an estimated 80-90% of the global commercial fish catch is concentrated in the coastal zones - where our populations are rising.

* For the United States, weather and climate sensitive industries, both directly and indirectly, account for about 1/3 of our nation's GDP - \$2.7 trillion - ranging from agriculture, finance, insurance, and real estate, to retail and wholesale trade, and manufacturing.

Statistics compiled from insurance companies from 1950-1999 show that major natural catastrophes across the globe caused economic losses of \$960 billion. However, citing a

statement from Professor Obasi: over the same period, loss of life in countries with good observation systems for warning and preparedness has fallen.

I must point out that the benefits from weather forecasting do not end with early warnings for natural disasters. In pure economic terms, studies show that national institutions that provide weather, climate, and water services to their citizens contribute an estimated \$20 - \$40 billion dollars each year to their national economies.

Clearly, the return on our investments for Earth observation has brought great benefits to the general public.

Imagine then, the return on our investment for a fully networked observing system of Earth information for all nations?. Just think what that return might be?

We can examine regional or industry specific statistics and uncover many positive indicators of economic return on investments in observing systems:

- * The annual economic return to the U.S. economy of NOAA's El Niño ocean observing and forecast system - an international effort I might add - is between 13 and 26 percent. Any business would be happy to operate at a return of 5%!

- * Experts estimate that the agricultural sector benefits from weather services at a cost ratio of about 15 to 1. That is, farmers get about \$15 of value out of every dollar spent on forecasting the weather.

- * One new industry - seasonal weather derivatives - has seen exchanges between parties at a level of \$2 billion per year in 1998-2000 and \$4 billion in 2001. This has resulted in a total notional value of \$11.8 billion in weather risk management contracts over the past five years. (Weather derivatives are financial contracts in which money changes hands based on seasonal average temperatures, degree-days, or precipitation amounts).

It is clear that a comprehensive Earth observation system calibrated by the relevant measurement standards is essential to the information infrastructure necessary for sustainable development. It would indeed be the basis for improving the management of natural resources and use of the environment that underpin our economies.

Science

However, improved management of resources cannot be achieved without a much more comprehensive and detailed understanding of the earth's physical, chemical, and biological systems. A truly integrated Earth observation system will be needed to provide the sound science necessary to make policy decisions in the global context of social and economic change. Scientists and scientific method require data, and we simply have too many "blind spots" such as in our oceans, the carbon cycle, the water cycle, and numerous biological processes. We need to know much more...

With the difficult social and economic issues facing the world, the time has come to move beyond considering the separate disciplines of science as "stand alone" components

of the big picture of life on earth. Chemistry, physics, biology, geology, and the variety of new disciplines that have arisen in academia and industry are all part of an interrelated system for interpreting the world in which we live. We understand now that boundaries between disciplines will always be present. Thus, we need a collaborative approach to bridge understanding and management at the ecosystem level. Our collective challenge now is to understand and describe the complexities of this planet we inhabit - and we turn to science to help us do this.

We are faced with a number of pressing science questions. How are all of earth's "life systems" interrelated? In terms of climate, a major need is to distinguish the human influences from the natural variability. This calls for an interdisciplinary Earth Science approach. In addition to the pure science considerations, this is also an organization and management challenge. We should look at organizing "earth scientists" similar to the way many of our single discipline scientific communities have organized so well in the past. It also means a collective approach to preparing a plan and pressing for the resources to achieve this giant step forward in advancing the capability of Earth Science to support the difficult policy issues facing world leaders. In many respects, this is an organizational, not a technical challenge.

The direction of science today supports this idea. Reductionism, the approach of "describing the smallest bits possible one part at a time" - was a rousing success for the double helix (celebrating its golden anniversary). But now that the sciences are moving towards a Systems focus, this approach is shifting. For complex Earth systems, listing the parts of system or organism with its various functions is no more adequate to understanding the complexity of a living thing than listing the parts of a submarine, Boeing 777 or Airbus 340 to understand how they function.

We need to ask how the parts fit together and function as a whole. A well-connected global integrated information and data management system is the first step.

I do not underestimate the difficulty of organizing and building the next level earth observing system - it is an enormous challenge that will require a profound change in the way we work. Governments, professional societies, international institutions, industry, and academia need to work together in new ways but paved by the successes of the past, most of which originated with the WMO.

II. Fitting the pieces together

Existing Pieces

The WMO's World Weather Watch and the nations that contribute to the network have put in place a system for nations around the world to receive daily weather analyses and forecasts. The WMO has played a pioneering role in the global coordination of geophysical and meteorological experiments, thus laying down the operational foundations for the worldwide monitoring of the chemical composition of the atmosphere and of climate variability.

The Global Observing System of the World Weather Watch is a good example for what we can build from - over 10,000 surface stations around the globe. This system is focused on weather, but it is also enhanced by some relatively new initiatives, which create the opportunity for more comprehensive earth observing:

- * the Global Ocean Observing System (GOOS), which is focused on oceans, but has a weather and climate component.

- * the Global Climate Observing System (GCOS), with weather and climate components.

- * the Global Atmosphere Watch, which has a climate component but NOT a weather component, and

- * the Global Terrestrial Observing System

From these additional pieces we see plans already in place for components like 3000 Argo floats for measuring ocean salinity and temperature; and 1250 surface drifting buoys; 150 GCOS Upper Air Network instruments; and 1000 GCOS Surface Network stations?

And as we seek funding to fulfill these plans, we also have a great need to sustain funding to maintain and upgrade systems over time.

- * For example, preliminary estimates for replacing 333 GCOS Surface Network sites, 50 radiosonde sites and 3 Global Atmosphere Watch sites will require at least \$42 million over a 10 year period. I am happy to announce that NOAA's budget allocates \$4 million this year to strengthen the climate observing capabilities under GCOS.

One of the greatest accomplishments of the current systems, pioneered and advanced by the WMO, is the widespread trust that the general public has in weather forecasts. Yes, people seem to always have something to criticize about the accuracy of forecasts, but they DO rely on this information and use it to make important daily decisions - as evidenced by the economic value that I cited before. That trust will be an important element of a future comprehensive earth observing system.

Such an Integrated Earth Observing System will move us to accomplishments that go far beyond the next day's weather. El Nino, for example, provides an excellent preview of what future environmental services can be:

El Nino

As you know, we have a combination of in situ and space observing systems, computers and models that we use today to predict El Nino cycles. This information has significantly increased our skill levels associated with the forecast of general and seasonal winter and summer conditions 3 - 6 months in advance. It took intense international cooperation and 20 years to build, but the major investments in predictive capability - and the observing platforms that provide the data - have proven to be of immense economic and social benefit. It is fairly clear from this demonstrated success

that for climate prediction we need to expand and build upon these pieces to diagnose mid-term and long-term climate effects.

Because, As much as we know about the Earth's climate system - and we have achieved a significant base of knowledge thanks to basic research, critical uncertainties remain. And these uncertainties derive from the incomplete nature of our Earth observation systems. And climate is just one piece of the puzzle. We need to expand our horizons to include the sensors necessary for unraveling the mysteries of the wide variety of physical, chemical, geological, and biological cycles.

What are the missing pieces?

Recently NOAA has established an observing system architecture effort. The first step was to inventory of our observing networks. We found that we have 99 separate observing systems measuring 521 different environmental parameters. We also found that we have room to further optimize the system. We are now in the process of identifying where duplication exists, and where critical gaps remain. Understanding and cataloguing user requirements will be a major part of this effort. If we can develop an integrated system, fully wired and networked together without duplication, we then have the freedom to install needed new observing stations as well as add new sensors to current platforms. In addition, and most importantly, user data will be easier to process, distribute, and archive in an accessible and affordable.

NOAA applauds similar efforts underway at the WMO, such as the "Redesign the Global Observing System" activity - and we are participating in this important exercise. This is exactly the kind of leadership we need internationally to get this process on to the next level of achievement.

I would be remiss if I did not mention that perhaps the most important, but easily neglected components of an integrated information system for Planet Earth are the areas of Data Management and computing capacity. In order to realize the full benefits of an integrated system, we need the capacity to exchange, store, and disseminate data and information on a free and open basis. We also need supercomputers that have the capability to model the complex ecosystem-based processes that define our world. We certainly applaud the latest developments in this field, such as Japan's Earth Simulator.

Again, I am pleased to note that the WMO is out front paving the way through the "Future WMO Information System" initiative, and we at NOAA are paying close attention to this activity.

III. The solution - a true integrated Earth observation & information system

Earth Observation Summit

In furtherance of the objective of achieving an integrated and sustained earth observing system, I am pleased to announce that the U.S. will host an Earth Observation Summit on

July 31 in Washington DC to bring together Government Ministers of the G-8 and other interested nations, as well as established international organizations including the WMO to promote the concepts I have discussed with you today. The summit will provide a chance to explore and discuss what is needed to commit on the political level to building a comprehensive, integrated and sustained observing system for the Earth. In addition to the Ministerial level meeting, the plan is to establish an international Intergovernmental Ad Hoc Working Group, which will meet the next day. This group will begin development of an international ten-year plan for fielding such a system of systems.

The United States believes that the combined global observations of terrestrial, ocean, and atmospheric phenomena around the world will move us closer to providing "Sound Science for Sound Decisions" to our national and international decision-makers.

The driving social, economic and scientific imperatives that I have described put us in a race against time. We need to take effective collective action. Across the ages, the human species has endeavored to predict the future - and thanks to the WMO and the national partnerships represented here today we have reached a great measure of success with weather forecasts. It is time to take this model and move forward into the full range of earth sciences data observation. The task is difficult, but the stakes are high and the benefits will accrue many-fold to all the nations of the world.

Just as medical doctors must understand the pulse, temperature and blood pressure of their patient, as well as the interrelation of those vital signs to make an accurate diagnosis - we must also look at the Earth as a complex and interrelated system.

We have an historic opportunity before us to truly "take the pulse of Planet Earth" - and address the significant challenges of the 21st century. I look forward to the WMO playing a significant role in meeting this challenge. With your experience and established record of success in building observing systems, you have the ability and the mandate to play a key role and serve as a catalyst for this next level of achievement for the future of humankind. Success is essential. Failure is not an option.

Thank You for your time and attention.

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MSNBC

**Summit focuses on Earth observation
Representatives from 30 nations discuss pooling resources**

MSNBC STAFF AND WIRE REPORTS

WASHINGTON, July 31 — What's the weather forecast for a month from now? Just how concerned should we be about global climate change? What are the prospects for the spread of an infectious disease? Satellites and sensor networks could provide better answers to those questions, and representatives of more than 30 nations gathered here Thursday at an Earth Observation Summit to knit those remote-sensing resources more closely together.

ENERGY SECRETARY Spencer Abraham told delegates that the "potential for international collaboration in addressing these challenges is great, and the time to do it is now."

The summit brought together officials, scientists and bankers from 35 countries and 22 multilateral organizations for a daylong conference at the U.S. State Department. Abraham, Secretary of State Colin Powell and Commerce Secretary Don Evans said they hoped the session would encourage a strong partnership between science and government to meet critical challenges in disease and to protect the environment.

"We are all here because we share a deep interest in increasing human knowledge about our planet, and we want to act on that knowledge," Powell said. "Think of ... the lives that could be saved and the misery avoided if disaster managers in earthquake, flood or hurricane-prone regions could have many days or even weeks of advance warning. Or if we could better predict malarial outbreaks and other sources of infectious disease outbreaks that threatens the world being of citizens around the world."

In a statement, President Bush said an integrated Earth Observation System will benefit people around the world, "particularly those in the Southern Hemisphere."

"Our cooperation will enable us to develop the capability to predict droughts, prepare for weather emergencies, plan and protect crops, manage coastal areas and fisheries, and monitor air quality," Bush said.

THE ROAD AHEAD

Organizers of the summit said better forecasting of Pacific Ocean phenomena that influence the El Niño/La Niña weather cycle were already saving farmers \$450 million to \$550 million a year. If temperature forecasts were more accurate by just 1 degree Fahrenheit (0.6 degree Celsius), the savings in electricity costs could amount to \$1 billion or more per year, they said.

Powell suggested creating an international system to make use of space-based measurements of the Earth. But Conrad Lauterbacher Jr., administrator of the National Oceanic and Atmospheric Administration, said one problem was the countries have different systems of collecting data.

Organizers also said the nations' various sensor systems had "blind spots" that needed to be addressed — particularly when it comes to monitoring ocean temperatures, which are now thought to play a key role in global weather patterns.

The meeting was expected to result in a declaration committing the countries to cooperate in creating the system, and to set up a working group to prepare a 10-year implementation plan.

'UNANSWERED QUESTIONS'

Questions about long-term global climate change loomed as one of the the most controversial aspects of the project. Evans said the Earth Observation System could help scientists gain a more complete understanding of climate change and "the heartbeat of Mother Earth."

"There are still many unanswered questions about the ecosystem-based processes that define our world," Evans said. "A comprehensive Earth Observation System can bring some of these truths to light."

Last week, the Bush administration announced a 10-year, \$103 million plan to speed research in climate change, measure climatic effects from burning fossil fuel and industrial production of warming gases. The money would be diverted from other programs, and the White House announced no new spending to promote earth observation.

Environmentalists have voiced concern that the administration was focusing too much on the natural causes of climate change and reopening scientific issues already studied thoroughly. Some representatives of nongovernmental agencies said they felt that they were shut out from Thursday's summit.

The Bush administration has been lukewarm to some international accords — spurning, for instance, a treaty to reduce global warming on grounds the economic consequences would be severe.

But Powell, who drew chuckles in saying the world of science was relieved he chose the military instead of a career in geology — he earned a bachelor of science degree in geology from City College in New York — said it was important for science and technology to reinforce the decisions of politicians and business executives.

"Developmental challenges are much too big for governments to tackle alone," Powell said.

The Associated Press and Reuters contributed to this report.

CBS NEWS/ NEWSDAY/ LAS VEGAS SUN/ AP

A Crash Course In Earth Science

WASHINGTON, July 31, 2003

“Our cooperation will enable us to develop the capability to predict droughts, prepare for weather emergencies, plan and protect crops, manage coastal areas and fisheries, and monitor air quality.”

— President Bush

(AP) The Bush administration kicked off an international conference Thursday aimed at learning more about the Earth and using the information to cope with weather and health problems.

“(The) potential for international collaboration in addressing these challenges is great, and the time to do it is now,” Energy Secretary Spencer Abraham told officials, scientists and bankers from more than 30 nations who gathered at the State Department for the daylong conference.

Abraham, Secretary of State Colin Powell and Commerce Secretary Don Evans said they hope the session would encourage a strong partnership between science and government to meet critical challenges in disease and to protect the environment.

“We are all here because we share a deep interest in increasing human knowledge about our planet, and we want to act on that knowledge,” Powell said. “Think of ... the lives that could be saved and the misery avoided if disaster managers in earthquake, flood or hurricane-prone regions could have many days or even weeks of advance warning. Or if we could better predict malarial outbreaks and other sources of infectious disease outbreaks that threatens the world being of citizens around the world.”

In a statement, President Bush said an integrated earth observation system will benefit people around the world, “particularly those in the Southern Hemisphere.”

“Our cooperation will enable us to develop the capability to predict droughts, prepare for weather emergencies, plan and protect crops, manage coastal areas and fisheries, and monitor air quality,” Bush said.

As a first step, Powell suggested creating an international system to make use of space-based measurements of the Earth. But Conrad C. Lauterbacher Jr., administrator of the National Oceanic and Atmosphere Administration, said one problem was the countries have different systems of collecting data.

Evans said development of an observation system for the planet could help scientists gain a more complete understanding of climate change and “the heartbeat of Mother Earth.”

“There are still many unanswered questions about the ecosystem-based processes that define our world,” Evans said. “A comprehensive Earth Observation System can bring some of these truths to light.”

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But environmentalists said the administration was focusing too much on natural causes and reopening scientific issues already studied thoroughly.

The \$103 million will be diverted from other programs, and no new spending has been announced to promote earth observation, either.

The Bush administration has been lukewarm to some international accords — spurning, for instance, a treaty to reduce global warming on grounds the economic consequences would be severe.

But Powell, who drew chuckles in saying the world of science was relieved he chose the military instead of a career in geology — he earned a bachelor of science degree in geology from City College in New York — said it is important for science and technology to reinforce the decisions of politicians and business executives.

“Developmental challenges are much too big for governments to tackle alone,” Powell said.

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ENN/ REUTERS

U.S. hosts 'Earth Observation Summit'

01 August 2003

By Reuters

WASHINGTON — Representatives of 35 countries and 22 multilateral organizations met at the State Department Thursday to start work on integrating systems to monitor the weather, oceans, land use and climate change.

Known as the Earth Observation System, it would make better use of data which scientists now collect piecemeal and could save billions of dollars a year by helping farmers, weather forecasters and people who prepare for natural disasters, the organizers said.

"Such a system would bring together national and multinational surface, airborne and space-based measurements of the earth into a cooperative network of systems," said. Secretary of State Colin Powell.

"An integrated Earth Observation System would vastly increase our store of knowledge and leverage billions of dollars of worldwide investment," he added.

The organizers said better forecasting of the Pacific Ocean weather phenomenon known as El Nino are already saving farmers at least \$450 million to \$550 million a year.

If weather forecasts were more accurate by just one degree Fahrenheit, the savings in electricity costs would be at least \$1 billion a year, they added.

The meeting is expected to approve a declaration in which the countries and organizations make a commitment to cooperate in the project and to set up a working group to prepare a 10-year implementation plan.

James Connaughton, chairman of the White House Council on Environmental Quality, said that integrating the national systems for earth observation would be like finding the missing pieces of a jigsaw puzzle.

Source: Reuters.

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BBC NEWS

Thursday, 31 July, 2003, 15:42 GMT 16:42 UK

US proposes planet watch

US environmental policies have caused worldwide anger

US Secretary of State Colin Powell has said a shared global system for monitoring changes in the Earth's climate is essential for the United States and the world.

Mr Powell was speaking at the opening of a major international environment conference in Washington, attended by delegates from about 30 countries.

He said many environmental issues are too big for individual governments to tackle, adding that partnerships between politicians, scientists and the private sector are essential to improve the environment.

However, the BBC's science correspondent Richard Black says some observers are concerned that calls for a unified system are no more than an excuse to delay action on global warming.

As well as the secretary of state, delegates are hearing speeches from a number of prominent American political figures, including Energy Secretary Spencer Abraham and presidential science adviser John Marburger.

Our correspondent says the heavyweight line-up illustrates the importance which the Bush administration attaches to the initiative.

Yet, he says, precisely what the proposed observation system would do is not entirely clear.

Excuse

The idea is to gather and collate environmental data from a range of sources, making something which scientists do already more systematic.

The US is asking for a 10-year commitment which will see the project gradually expand from the West into developing countries.

But there is no budget as yet, nor is it clear where the money is to come from.

There is concern among scientific and environmental groups that the Bush administration could use the observation system as an excuse for taking no action on climate change.

More data is always valuable, they say - but there is already enough to show that global warming is happening and needs to be tackled now.

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CBC NEWS

Global Earth-observation system proposed

Last Updated Fri Aug 1 08:31:24 2003

WASHINGTON-- Canada supports a global Earth-observation system proposed by the United States, Environment Minister David Anderson said Thursday.

Representatives from 30 countries met in Washington to start work on merging their weather, ocean, land use and climate change data.

The Earth Observation System would offer a vast scientific picture of the planet and how it's changing. The co-ordinated system could save billions of dollars a year by helping farmers and weather forecasters, organizers said.

"An integrated Earth Observation System would vastly increase our store of knowledge and leverage billions of dollars of worldwide investment," said U.S. Secretary of State Colin Powell.

Anderson said the U.S.-led initiative suggests American officials are taking global climate change more seriously.

"I was very encouraged, as a person who believes that the United States in fact made a mistake in not continuing with the Kyoto process," said the minister.

"I was very pleased to see that the interest in climate change is apparently increasing in the administration at the highest level."

Canada committed to cut 1990 levels of greenhouse gases by six per cent by 2012. The gases contribute to global climate change.

The environment minister said Canada spends about \$80 million a year on monitoring weather data. He also announced Ottawa is sharing its climate archive, dating back to 1840.

The Bush administration recently announced a 10-year, \$103-million US plan to speed up research on global climate change. Environmentalists say there has been enough study and it is time to cut emissions.

In his address to the Earth Observation conference, Powell said there could be many health benefits and lives saved from earlier warnings of earthquakes, floods and hurricanes.

Organizers said better weather forecasts of the El Nino weather pattern in the Pacific Ocean are already saving farmers at least \$450 million a year.

Written by CBC News Online staff

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CORDIS NEWS

GMES: a key component of integrated Earth observation system, says French government

[Date: 2003-08-04]

Claudie Haignere, French Minister for Research and New Technologies, has called for greater political commitment to connecting and expanding the disparate collection of Earth observation platforms around the globe.

Speaking at the Earth summit in Washington on 31 July, Ms Haignere welcomed plans to establish an integrated international Earth observation system, noting that Europe has already illustrated its political commitment to such a strategy with the development of the global monitoring environment system (GMES).

'I think I speak on behalf of the European Union when I say that the political dimension of Earth observation has been recognised very early on [...] and this is why [the EU] got involved in the GMES programme,' said the minister.

The aim of GMES, a joint initiative between the European Commission and of the European Space Agency (ESA) and an area outlined for research funding in the Community's Sixth Framework Programme, is to develop, by 2008, an operational and autonomous European global monitoring capability for environmental and security purposes. It is expected that GMES will allow European researchers, private companies and public authorities to better monitor climate change, track environmental pollution, and react to emergencies.

However, Ms Haigner? added that the GMES programme does not simply focus on improving Earth observation for the benefit of Europeans alone. 'GMES is being developed, keeping in mind the need for as close a collaboration as possible with [Europe's] global partners so that everyone can benefit from the progress we are making,' she said, adding that such an approach is crucial if bilateral and multilateral links are to be set up to predict and manage Earth system cycles and processes.

In a declaration following the summit, delegates proposed the establishment of an intergovernmental working group with a view to developing a ten-year implementation plan for building an integrated Earth observation system. A framework for the plan will be presented at the next ministerial conference, to be held in Tokyo, Japan, in 2004.

For further information, please visit:

<http://www.earthobservationsummit.gov/index.html>

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AGENZIA GIORNALISTICA ITALIA

Tuesday, August 5, 2003

'Earth Observation' Plan by 2004 to Defend Environment

(AGI) - Rome, Italy, Aug. 4 - A plan for the co-ordinated observation of the earth by 2004: this was the result of the first summit on earth observation that ended in Washington, and in which the Under Secretary of Environment, Roberto Tortoli, participated. The international summit, which was born with the goal of promoting development of an integrated system of observation of the earth, also gave Italy a role as protagonist. Italy was in fact part of the General Secretariat and is co-leader in the study of "user requests," that is, the singling out of data necessary for earth observation.

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INTERNATIONAL HERALD TRIBUNE

SPACE.COM

White House Seeks \$103 Million To Plug Gaps in Earth Observation System

By Brian Berger
Space News Staff Writer

posted: 05:13 pm ET
31 July 2003

WASHINGTON -- The White House plans to ask Congress for \$103 million to pay for projects that are intended to plug the gaps in the data gathered each day by an ad hoc network of environmental monitoring satellites operated by the United States and several other nations.

U.S. government officials said the new funding would be spread over 2005-2006 and would be in addition to the roughly \$4.5 billion the United States spends annually on climate change research.

At least some of the new money would go to NASA and the National Oceanic and Atmospheric Administration, which together operate dozens of Earth observation and weather satellites.

NASA plans to use its share of the new money as a down payment to put what scientists call an aerosol polarimetry sensor in orbit in 2007 to study the composition of greenhouse gases in the atmosphere. Those are the gases that are thought by scientists to contribute to global warming. The sensor will gather its data by measuring light waves as they bounce off aerosols.

The current generation of NASA instruments can measure the quantity of greenhouse gasses in the atmosphere, but yield only limited data about their chemical composition. The advanced polarimeter NASA plans to put in orbit aboard a discarded satellite bus would enable scientists to inventory gasses other than carbon dioxide that are suspected to play a larger role in global warming than previously thought.

The new funding initiative was announced Thursday at the Earth Observation Summit at the U.S. State Department here. Commerce Secretary Don Evans said the funding would be spent on research priorities identified in the Climate Change Science Program's 10-year strategic plan released July 24. That plan, ordered by U.S. President George W. Bush in 2001, called for, among other things, a better understanding of the role non-carbon dioxide gasses play in global warming and carbon sequestration, the trapping of carbon to prevent its release into the atmosphere.

Earth observation, both from space and from sensors on the ground, is critical to understanding and protecting the planet, Evans said.

"I don't think there is anything more important than to measure the heartbeat of mother Earth as we move into the 21st Century," Evans said.

Despite an annual worldwide investment of billions of dollars in Earth observation, Evans said, critical gaps persist.

"It's time for us to close the data gap that exists out there today and move the Earth observation data system to the next level," he said.

Representatives of more than 30 nations participated in the summit. One of the goals of the participating countries is to lay the ground work for a 10-year plan to establish a closely coordinated international global observation system.

U.S. Secretary of State Colin Powell opened the summit with a call for countries to work together to monitor the Earth and its ecosystems for the mutual benefit of all nations.

The Earth Observation Summit follows a meeting earlier this summer in Evian, France where the G-8 nations called for strengthening international cooperation on global observation as part of a larger science and technology action plan for sustainable economic development. The G-8 is made up of the eight most economically developed nations in the world.

At Thursday's Earth Observation Summit here, the conferees adopted a declaration calling for an international commitment to making such a comprehensive, coordinated observation system a reality within a decade.

The declaration endorses the need 'to monitor continuously the state of the Earth, to increase the understanding of dynamic Earth processes, to enhance prediction capabilities for changes to the Earth system, and to further implement our environmental treaty obligations.' As such, the declaration asserts the need to support a freer exchange of Earth observation data and the development of a 10-year plan for implementing a 'comprehensive, coordinated, and sustained' Earth observation system.

The framework for such a plan is expected to be completed by the time the world's environmental ministers meet next spring in Tokyo.

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CANADA NEWSWIRE

MEDIA ADVISORY - Minister Anderson to Attend the Earth Observation Summit

OTTAWA, July 29 /CNW/ - Media representatives are advised that the Honourable David Anderson, Minister of the Environment will travel to Washington D.C. on Thursday July 31, 2003, to attend the Earth Observation Summit at the U.S. State Department.

Minister Anderson will deliver a five-minute overview of Canada's perspective and support for an integrated approach to an Earth Observation System.

Observations of the Earth's atmosphere, its oceans and its ecosystems are fundamental to understanding the Earth, determining how and why it is changing and the implications this may have for humans and other life forms. Earth observations provide the tools to "take the pulse of the planet."

Minister Anderson will be available to members of the media via teleconference to discuss Canada's objectives at the EOS, and the critical importance that earth observations play in many sectors of the economy, health sciences, environmental management, agriculture and transportation. He will also be available to discuss the release of 150 years of Canadian Climate Data Archive website.

Event: Media availability

Date: Thursday July 31, 2003

Time: 11:30 a.m. (EDT)

Location: State Department, Acheson Auditorium

2201 C Street, NW, Washington, DC

NOTE: In order to gain access to the State Department, media representatives must present one of the following: (1) a U.S. government- issued identification card (Department of State, White House, Congress, Department of Defense, or Foreign Press Center); (2) a photo ID issued by the employing media organization; or (3) a letter on official letterhead from employing organization verifying employment as a journalist, accompanied by an official photo ID (valid driver's license or passport).

Event: Teleconference with Minister Anderson

Date: Thursday July 31, 2003

Time: 2:00 p.m. (EDT)

Journalists wishing to participate in the teleconference may contact Sébastien Bois at (819) 953-4016 to obtain the call-in number and reservation number. Please note that to participate in the teleconference you must phone in 15 minutes before it begins.
(Egalement offert en français)

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For further information: Kelly Morgan, Director of Communications,
Office of the Minister of the Environment, (819) 997-1441; Sébastien Bois,
Media Relations, Environment Canada, (819) 953-4016. To receive automatic
e-mail notification of all Environment Canada news releases, media advisories,
and statements, please click on this URL to subscribe:

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